

# Calls per hour

based on 1000 calls per day

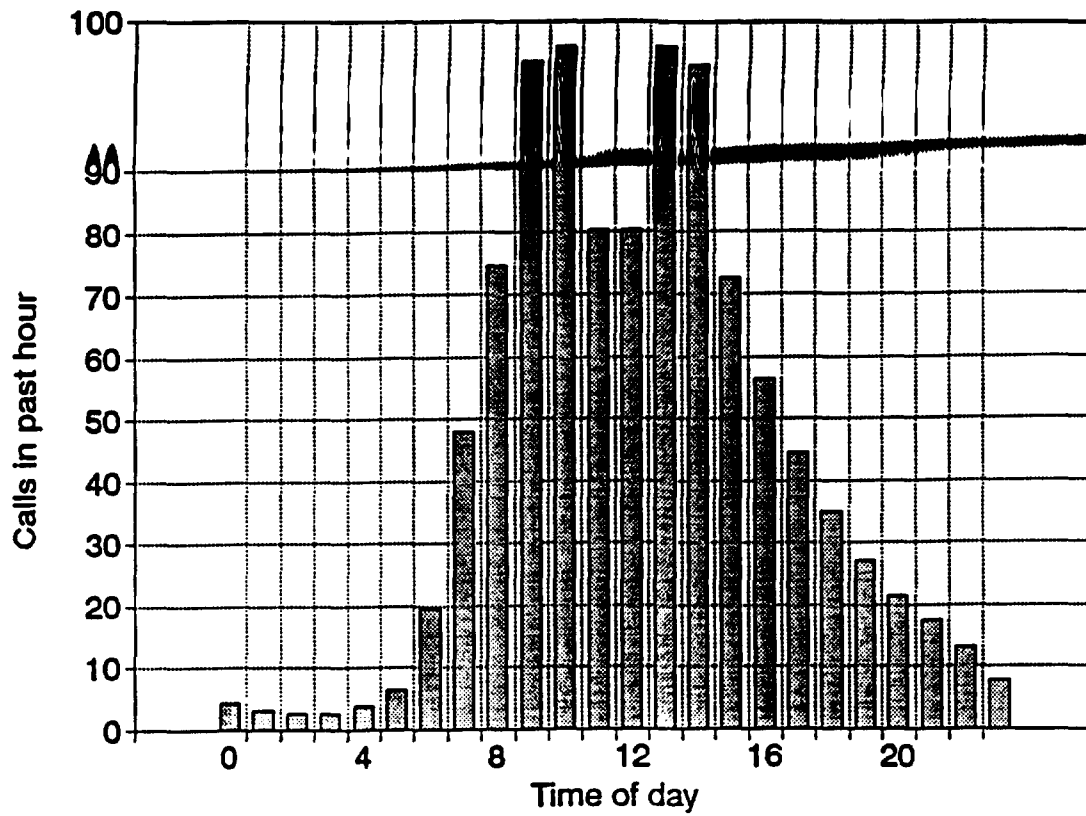


Figure 5a - Traffic Distribution

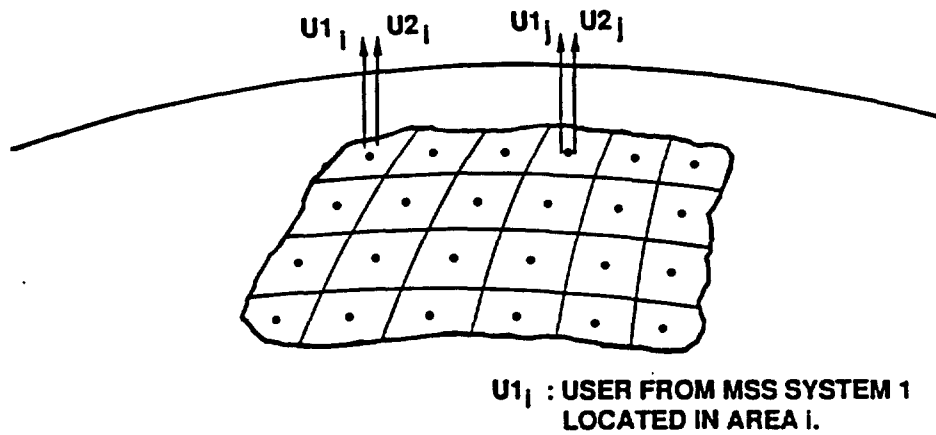


Figure 5b - Uniform User Distribution

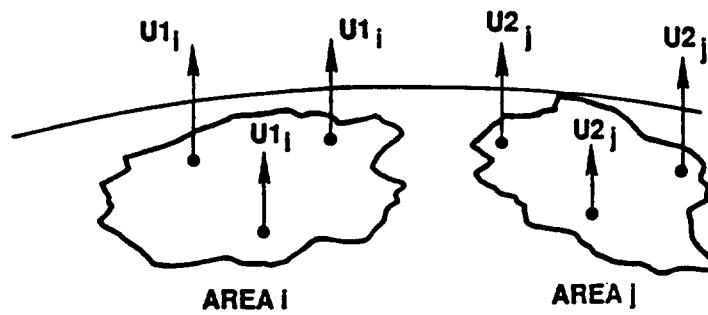


Figure 5c - Non-overlapped User Distribution

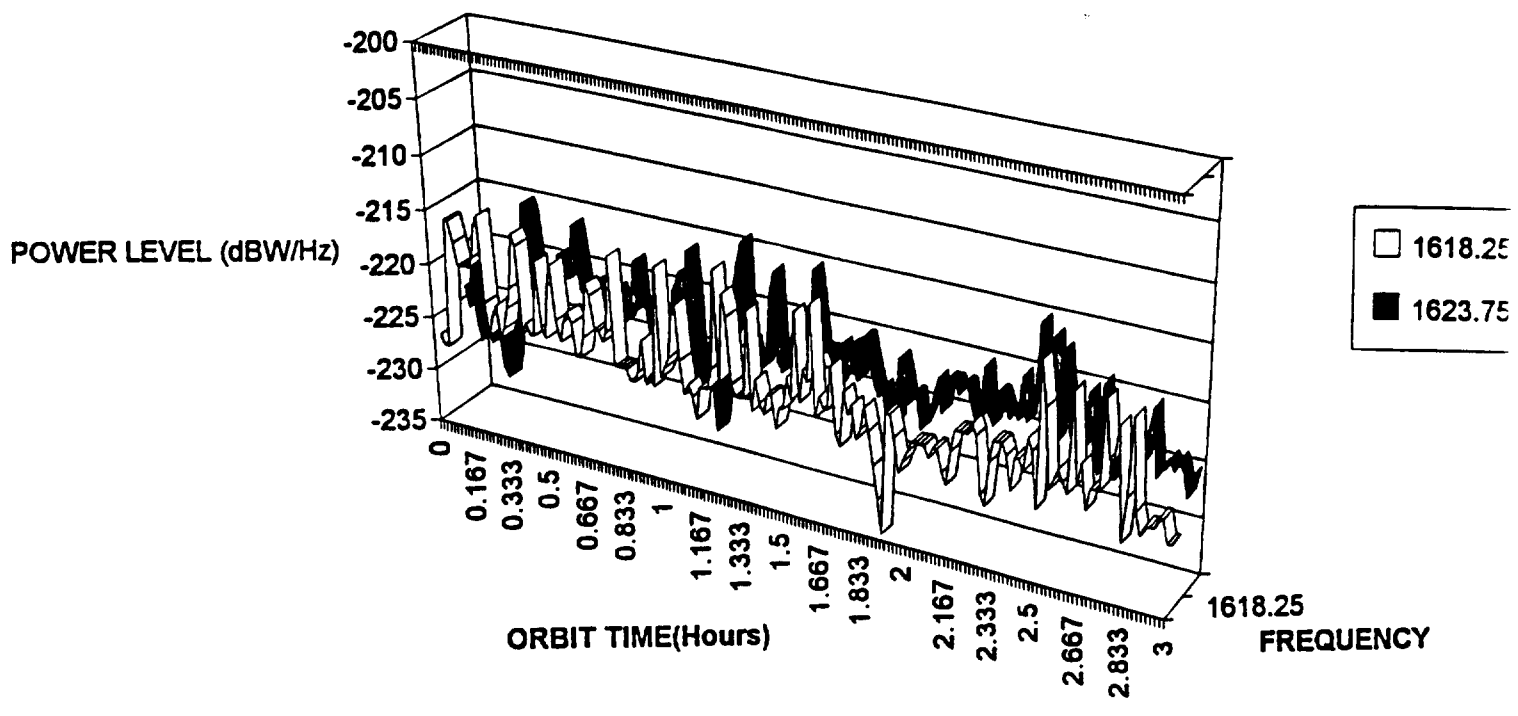


Figure 6 - Sample Interference Power Spectral Density

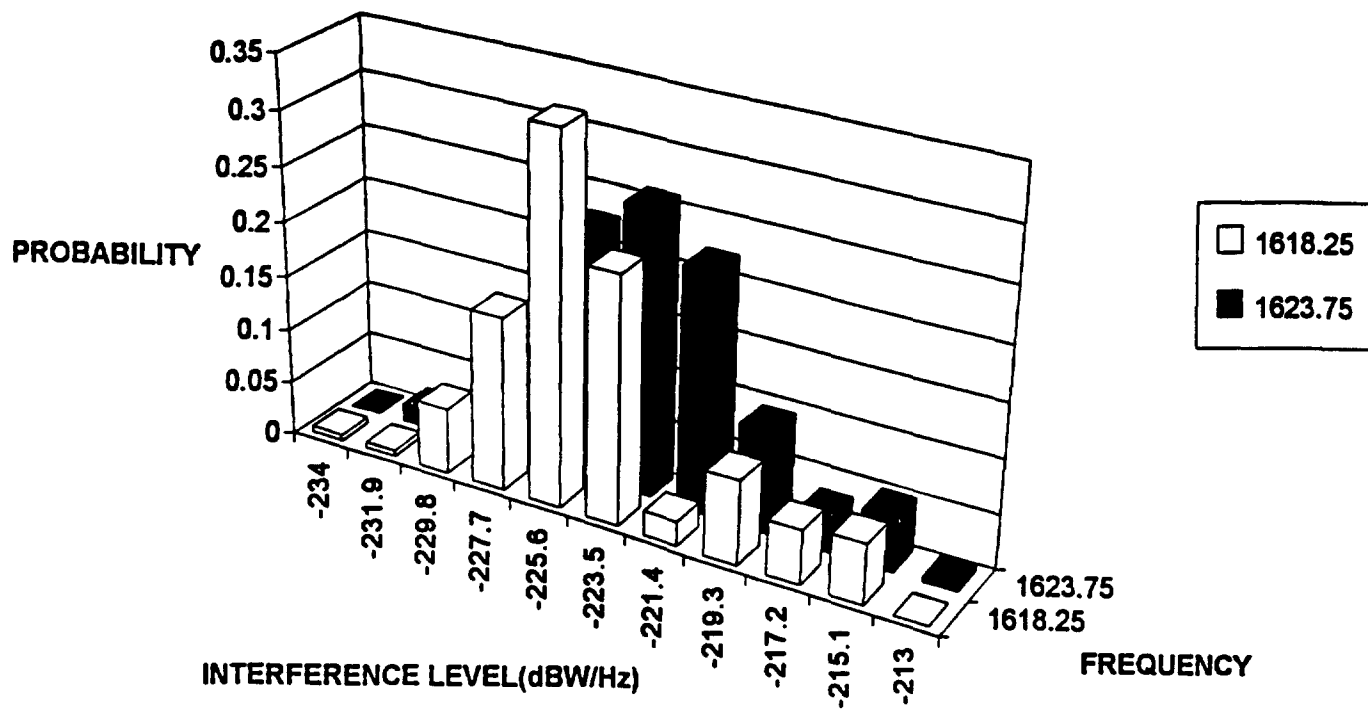


Figure 7 - Statistical Summary of Interference

## Appendix C

### Globalstar Feeder Link Operations in the 5150-5216 MHz Band Would be Compatible with the Proposed Microwave Landing System

The band 5000-5250 MHz is allocated, throughout the world, on a primary basis, to the aeronautical radionavigation service. Pursuant to international Footnote 797A, the sub-band 5150-5216 MHz also is allocated, in many countries (including the United States, and most other countries of ITU Region 2), on a primary basis, for use by the radio-determination satellite service (space-to-Earth) as feeder links. The band also is allocated, on a secondary basis, in Regions 1 and 3, for such use. A power flux density limit of  $-159 \text{ dBW/m}^2$  in any 4 KHz band for all angles of arrival at the earth's surface is applied to such use.

FAA documents list the frequencies 5031 to 5090.7 MHz for potential use for a Microwave Landing System (MLS). See, Letter of Gerald J. Markey, Federal Aviation Administration, to David Donohoe, Comsearch, dated June 11, 1990. Based on the possible use of these frequencies for an MLS, LQSS has calculated the effect of operation of Globalstar feeder links in the 5150-5216 MHz band.

Analysis: The upper frequency proposed for use by the MLS is 5090.7 MHz. This frequency is 67.8 MHz from the lowest planned Globalstar C-band space-to-Earth feeder link frequency of 5158.5 MHz. This separation should be ample to enable spectrum filtering of the Globalstar satellite transmission. For example, if the output bandpass filter has a 60 MHz bandwidth, centered at around 5185 MHz, then 1.5 passbands away (90 MHz), the rejection should be at least 30 dB.

The anticipated received PFD level at the aircraft from the MLS ground transmitters is approximately  $-90 \text{ dBW/m}^2/4 \text{ KHz}$  for the nominal 26 KHz wide spectrum, See, Table G-1 in Attachment G of Part I of ICAO Annex 10. Globalstar previously has demonstrated that its C-band space-to-earth feeder links will meet the  $-159 \text{ dBW/m}^2/4 \text{ KHz}$  for all angles of arrival, as required by RR 797A. This corresponds to a power flux density of  $-150 \text{ dBW/m}^2$  within the same 26 KHz bandwidth. Thus, the Globalstar in-band signal PFD is lower by 60 dB. Unfiltered out-of-passband emissions should be at least 20 dB lower after amplification in the satellites.

Assuming at least 30 dB of spacecraft spectrum filtering plus the 80 dB for out-of-passband power flux density level, the Globalstar C-band downlink PFD at an aircraft will be at least 100 dB down from the MLS PFD. This should meet the FAA's criteria of the transmitter maximum spurious level of 90 dB below the carrier.

CERTIFICATE OF SERVICE

I, Andrew Taylor, hereby certify that I have on this 4th day of December 1992, caused to be sent copies of the foregoing "Comments of Loral Qualcomm Satellite Services, Inc. on Amendment of Section 2.106 of the Commission's Rules to Allocate the 1610-1626.5 MHz and the 2483.5-2500 MHz Bands for Use by the Mobile-Satellite Service, Including Non-Geostationary Satellites" by U.S. mail, postage prepaid, to the following:

Gary M. Epstein, Esq.  
James F. Rogers, Esq.  
Kevin C. Boyle, Esq.  
Latham & Watkins  
1001 Pennsylvania Avenue N.W.  
Suite 1300  
Washington, D.C. 20004-2504

Robert A. Mazer, Esq.  
Albert Shuldiner, Esq.  
Nixon, Hargrave, Devans & Doyle  
One Thomas Circle N.W.  
Suite 800  
Washington, D.C. 20005

Jill Abeshouse Stern, Esq.  
Shaw, Pittman, Potts &  
Trowbridge  
2300 N Street N.W.  
Washington, D.C. 20037

Philip L. Malet, Esq.  
Steptoe & Johnson  
1330 Connecticut Avenue, N.W.  
Washington, D.C. 20036

Veronica Haggart, Esq.  
Vice President & Director  
Regulatory Affairs  
Motorola, Inc.  
1350 I Street N.W.  
Washington, D.C. 20005

Norman P Leventhal, Esq.  
Raul Rodriguez, Esq.  
Stephen D. Baruch, Esq.  
Leventhal, Senter & Lerman  
2000 K Street N.W.  
Suite 600  
Washington, D.C. 20006

Bruce Jacobs, Esq.  
Glenn Richards, Esq.  
Fisher, Wayland, Cooper  
& Leader  
1255 23rd St. N.W.  
Suite 800  
Washington, D.C. 20037

Lon Levin, Esq.  
Vice President and Regulatory Counsel  
Leslie A.L. Borden, Esq.  
Vice President and General Counsel  
AMSC  
1150 Connecticut Avenue N.W.  
4th Floor  
Washington, D.C. 20036

Dr. Robert L. Riemer  
Committee on Radio Frequencies  
HA-562  
National Research Council  
2101 Constitution Ave. N.W.  
Washington, D.C. 20418

Victor J. Toth, Esq.  
Law Offices of Victor J. Toth  
2719 Soapstone Dr.  
Reston, VA 22091

Hollis G. Duesing, Esq.  
The Association of American Railroads  
50 F Street N.W.  
Washington, D.C. 20001

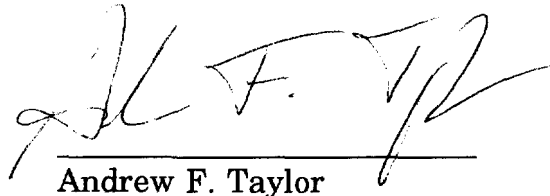
Richard Barth  
U.S. Department of Commerce  
NOAA  
Office of Spectrum Management  
Room 3332 FOB #4  
Washington, D.C. 20233

Cheryl Lynn Schneider, Esq.  
Communications Satellite Corporation  
950 L'Enfant Plaza, S.W.  
Washington, D.C. 20024

William K. Keene, Esq.  
Winston & Strawn  
1400 L Street N.W.  
Washington, D.C. 20005

James G. Ennis, Esq.  
Fletcher, Heald & Hildreth  
1225 Connecticut Ave. N.W.  
Suite 400  
Washington, D.C. 20036

William Hatch  
William Gamble  
Richard Parlow  
U.S. Department of Commerce  
NTIA  
14th & Constitution Ave. N.W.  
Washington, D.C. 20230



Andrew F. Taylor